



Application Note 338

DS2141A, DS2151 Programming, Alarm Set and Clear Criteria

ALARM

Blue Alarm (AIS)
(see note 1 below)

Yellow Alarm

1. D4 bit 2 mode
(RCR2.2 = 0)

2. D4 12th F-bit mode
(RCR2.2 = 1; this mode
is also referred to as the
"Japanese Yellow Alarm")

3. ESF mode

Red Alarm (RCL)
(this alarm is also referred
to as Loss Of Signal)

SET CRITERIA

when over a 3ms window,
5 or less zeros are received

when bit 2 of 256 consecutive
channels is set to zero for at
least 254 occurrences

when the 12th framing bit is set
to one for two consecutive
occurrences

when 16 consecutive patterns
of 00FF hex appear in the FDL

when 192 consecutive zeros
are received

CLEAR CRITERIA

when over a 3ms window,
6 or more zeros are received

when bit 2 of 256 consecutive
channels is set to zero for less
than 254 occurrences

when the 12th framing bit is set
to zero for two consecutive
occurrences

when 14 or less patterns of
00FF hex out of 16 possible
appear in the FDL

when at least 12.5% one's
density is received

NOTES:

1. The definition of Blue Alarm (or Alarm Indication Signal) is an unframed all ones signal. Blue alarm detectors should be able to operate properly in the presence of a 10^{-3} error rate and they should not falsely trigger on a framed all ones signal. The blue alarm criteria in the DS2141A and DS2151 has been set to achieve this performance.